

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

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APPLICANT : TAIHEIYO CEMENT CORP;

INVENTOR : FUJITA HIDEKI;

INT.CL. : G21F 1/04 G21F 1/10 G21F 3/00

TITLE : NEUTRON SHIELD BODY AND PRODUCTION METHOD FOR IT

ABSTRACT : PROBLEM TO BE SOLVED: To provide a technology concerning neutron shield body having no delay of initial hardening and becoming high stiffness in long term and its production method. Further in detail to provide a technology concerning the production method of neutron shield body efficiently utilizing general economical cement.

SOLUTION: An incineration product is made of stuff from one or more of city waste incineration ash and sewage sludge incineration ash. A hydraulic material consisting of incineration product containing 10 to 40 wt.% of one or more of  $C_{11}A_7$ ,  $CaC_{12}$ ,  $C_{11}A_7$ ,  $CaF_2$ ,  $C_3 A$  and one or more of  $C_2 S$  and  $C_3 S$  and gypsum is used as bonding agent. By adding aggregate of 50 to 800 pts.wt. containing boron, water of 10 to 45 pts.wt. and builder of 5 pts.wt. or less as necessary to the hydraulic material of 100 pts.wt., kneading molding and hardening, a neutron shield body is produced.

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AN - 1998-050818 [05]

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IN - DOBROV E M; KOCHETKOVA R G; KUROCHKIN A B

MC - C05-A01B C05-C05 C14-M01D K07-A02

M2 - [01] A220 A940 C101 C108 C316 C540 C730 C801 C802 C804 C805 M411 M781

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PA - (KOCH-I) KOCHETKOVA R G

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AB - RU2083007 Preparation of radiation shielding comprises: (a) placing phosphor-gypsum lumps, wastes from reprocessing of apatites and phosphorites in mineral fertiliser production in a mechanical grinder; (b) grinding to a size of 10 mm; and (c) mechanically activating by grinding to less than 0.001 mm. The phosphor-gypsum loses its water which wets the raw product. The product is placed in a casing and is allowed to set for 60 minutes. The resulting sheet has a thickness of 150 mm and reduces beta -radiation by half and gamma -radiation by 1.6 times. The wastes contain not less than 40% by mass of gypsum and also a filler in the form of building wastes, slag and/or mineral dyes. The wastes further contain reinforcement in the form of assembly plates and/or road covering with a surface processing comprising mineral materials.

- The method is useful in the manufacture of radiation protective constructions, mainly sheets and faceplates, used in e.g. communal and industrial constructions

- The method allows ecological use of gypsum-containing wastes

- (Dwg.0/0)

CN - R03122-U

IW - PREPARATION RADIATE SHIELD MECHANICAL ACTIVATE GYPSUM CONTAIN WASTE BASIS FILL REINFORCED

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NC - 001

OPD - 1995-11-27

ORD - 1997-06-27

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TI - Preparation of radiation shielding - uses mechanically activated gypsum-containing wastes as basis, and also filler and reinforcement